

PATENT COOPERATION TREATY

PCT

10/562102

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

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|--|--|--|------------------|
| Applicant's or agent's file reference PHAT030035WO | FOR FURTHER ACTION | | See item 4 below |
| International application No. PCT/IB2004/050966 | International filing date (<i>day/month/year</i>) 22 June 2004 (22.06.2004) | Priority date (<i>day/month/year</i>) 25 June 2003 (25.06.2003) | |
| International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237 | | | |
| Applicant KONINKLIJKE PHILIPS ELECTRONICS N.V. | | | |

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
2. This REPORT consists of a total of 7 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

| | |
|--|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input checked="" type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

| | |
|---|--|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 740 14 35 | Date of issuance of this report 03 January 2006 (03.01.2006) |
| | Authorized officer Idhir Britel Telephone No. +41 22 338 70 60 |

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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29 SEP 2004

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To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2004/050966

International filing date (day/month/year)
22.06.2004

Priority date (day/month/year)
25.06.2003

International Patent Classification (IPC) or both national classification and IPC
G06K19/07

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Berger, C

Telephone No. +49 89 2399-2689



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/B2004/050966

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/050966

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|------|
| Novelty (N) | Yes: Claims | 1-16 |
| | No: Claims | |
| Inventive step (IS) | Yes: Claims | 1-16 |
| | No: Claims | |
| Industrial applicability (IA) | Yes: Claims | 1-16 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the International application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V.

- 1 The following documents are referred to in this communication:
D1 : EP 0 669 591 B (MIKRON GES FUER INTEGRIERTE
MIKROELEKTRONIK) 8 December 1999 (1999-12-08)
D2 : US 2002/054653 A1 (ZETTLER WERNER) 9 May 2002 (2002-05-09)
D3 : US 6 559 754 B1 (AMTMANN FRANZ) 6 May 2003 (2003-05-06)
- 2 Document D1, which is considered to represent the most relevant state of the art, refers to a data carrier comprising a transponder circuit (2) for contactless communication with a base station, the transponder circuit (2) comprising a coil antenna (12) in which an antenna signal (L_A) can be induced in operation, further comprising a modulator (16) for load-modulating (cf. page 2, line 26; page 4 lines 32-38) transmission data.
- 3 Document D2 refers to a contactless data carrier with controllable supply voltage generation means and using load modulation (28). Depending on the distance between data carrier and base station a load regulation is performed (cf. paragraphs 41-51).
- 4 Document D3 describes a data carrier which is activated in a transmission mode such that the load modulation of a non-modulated carrier signal is performed by two auxiliary carrier signals in order to transmit data to a base station. Power consumption is thereby reduced by using only one auxiliary carrier signal for data transmission.
- 5 The subject-matter of independent claim 1 differs from D1 as the closest prior art in that it comprises
 - detection means for detecting an item of energy information that characterizes the energy content of the antenna signal,
 - comparator means for comparing the detected item of energy information with a preset item of energy information and for emitting an item of comparison information, and
 - modification means for modifying the ratio of the duration of the load period to the duration of the off-load period as a function of the item of comparison information.

The problem to be solved by the present invention may be regarded as provision of better detectable waveforms at extreme low or high distances between the data carrier and the base station due to modified load and off-load periods.

None of the prior art documents neither shows the differing features nor provides a hint for the skilled person to include the differing features in the data carrier of D1.

The subject-matter of **claim 1** appears therefore novel and involving an inventive step (Article 33(2)(3) PCT).

- 6 Independent claim 7 claims an integrated circuit of a data carrier, the circuit having analogous features to the data carrier of claim 1.
- 7 Hence, for the same reasons as shown in above paragraph 5, the subject-matter of **claim 7** appears novel and involving an inventive step (Article 33(2)(3) PCT).
- 8 **Claims 2 - 6 and 8 - 12** are dependent on claims 1 and 7, respectively, and as such also meet the requirements of the PCT with respect to novelty and inventive step.
- 9 Document D1, which is considered to represent the most relevant state of the art, discloses a method of modulation for the modulation, by a data carrier, of an electromagnetic field generated by a base station, wherein the following step is carried out:
 - modulation of the electromagnetic field by the data carrier, during successive load periods and off-load periods, with transmission data to be communicated to the base station, the electromagnetic field being load-modulated during the load periods by modifying the value of the impedance of a modulation load belonging to the data carrier (cf. page 2, line 26; paragraphs 15-17).

From this, the subject-matter of independent claim 13 differs by the following method steps:

- determination of the distance between the data carrier and the base station;
- adjustment of the ratio of the duration of the load period to the duration of

the off-load period as a function of the distance between the data carrier and the base station.

None of the prior art documents neither describes the differing method steps nor provides a hint for the skilled person to perform the differing method steps in the method of D1.

The subject-matter of **claim 13** appears therefore novel and involving an inventive step (Article 33(2)(3) PCT).

- 10 **Claims 14-16** are dependent on claim 13 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VIII.

- 11 Although **claims 1 and 7** have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.